

**REMARKS**

Claims 1, 9 and 16 have been amended to improve form, claims 21-23 have been canceled without prejudice or disclaimer and new claims 24-26 have been added. Claims 1-20 and 24-26 are now pending in this application.

Initially, the applicant notes that the application was subjected to a Restriction Requirement. The applicant's representative elected claims 1-20 for examination in a telephone conversation with the Examiner on March 19, 2007 without traverse.

Claims 1-8, 10 and 15-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Shirakata et al. (U.S. Patent Application Publication No. 2004/0008618; hereinafter Shirakata) in view of Ho et al. (U.S. Patent No. 6,148,024; hereinafter Ho). The rejection is respectfully traversed.

Claim 1, as amended, recites that that the device includes a memory configured to store first phase information associated with a first pilot tone received by the device during a first interval.

The Office Action states that Shirakata discloses a memory configured to store first phase information associated with a first pilot tone and points to element 8c in Fig. 4 along with paragraphs 0023 and 0114-0119 of Shirakata for support (Office Action – page 2). Element 8c in Fig. 4 of Shirakata is a pilot carrier memory. Shirakata discloses that pilot carrier memory 8c holds in advance information about transmitted pilot carriers to which known complex numbers are assigned on the transmitting end (Shirakata – paragraph 0114). Shirakata further discloses that phase difference calculating unit 8d compares the received pilot carrier extracted by pilot carrier extracting circuit 8b and the transmitted pilot carrier signal stored in pilot carrier memory 8b to obtain a phase difference (Shirakata – paragraph

0119). Therefore, Shirakata does not disclose or suggest that the pilot carrier memory 8c stores phase information associated with a first pilot tone received by the device during a first interval. In contrast, Shirakata appears to pre-store information associated with pilot carriers transmitted by the device of Shirakata.

Claim 1, as amended, further recites that the logic is configured to decode data transmitted on each of the plurality of tones during the first interval using the modified phase information, determine a second difference associated with a second interval, the second difference corresponding to a difference between phase information associated with a third pilot tone received by the device during the second interval and the first phase information, use the second difference to determine second offset information, and modify phase information associated with tones received during the second interval based on the second offset information.

Shirakata, as discussed above, discloses that phase difference calculating unit 8d compares the received pilot carrier extracted by pilot carrier extracting circuit 8b and the transmitted pilot carrier signal stored in pilot carrier memory 8c to obtain a phase difference (Shirakata – paragraph 119). Shirakata does not disclose or suggest logic configured to determine a second difference associated with a second interval, where the second difference corresponds to a difference between phase information associated with a third pilot tone received by the device during the second interval and the first phase information, use the second difference to determine second offset information, and modify phase information associated with tones received during the second interval based on the second offset information. In contrast, Shirakata merely discloses determining obtaining a phase difference between a received pilot carrier extracted by pilot carrier extracting circuit 8b and

a transmitted pilot carrier signal stored in pilot carrier memory 8c. Ho also does not disclose or suggest the features discussed above.

For at least these reasons, the combination of Shirakata and Ho does not disclose or suggest each of the features of amended claim 1. Accordingly, withdrawal of the rejection and allowance of claim 1 are respectfully requested.

Claims 2-8 are dependent on claim 1 and are believed to be allowable for at least the reasons claim 1 is allowable. In addition, these claims recite additional features not disclosed or suggested by the combination of Shirakata and Ho.

For example, claim 5 recites that when dividing the difference by a value, the logic is configured to divide the difference by a tone number of the first pilot tone. The Office Action states that it would have been obvious to divide the difference by a frequency of the first pilot tone (Office Action – page 3). The applicant notes that claim 5 recites dividing the difference by a tone number of the first pilot tone. Therefore, even if, for the sake of argument, the Examiner's statement regarding claim 5 was true, this would still not address the feature recited in claim 5. The applicant respectfully requests that any subsequent communication particularly point out where this feature is disclosed in Shirakata or Ho or withdraw the rejection. In any event, the applicant respectfully submits that the combination of Shirakata and Ho does not disclose or suggest this feature.

Claim 6 recites that when multiplying the first value by values associated with each of the respective plurality of tones, the logic is configured to multiply the first value by a tone number of each of the respective plurality of tones. The Office Action states that it would have been obvious to multiply the first value by a frequency of each of the tone (Office Action – page 4). Even if, for the sake of argument, the Examiner's statement

regarding claim 6 was true, this would still not address the feature recited in claim 6. That is, claim 6 recites logic configured to multiply the first value by a tone number of each of the respective plurality of tones. The applicant respectfully submits that the combination of Shirakata and Ho does not disclose or suggest this feature and respectfully requests that any subsequent communication address this feature or withdraw the rejection.

Claim 16 recites a device that includes a memory and logic. Claim 16, as amended, recites that the memory is configured to store first phase information associated with a first predetermined tone received by the device from a second device. Claim 16 also recites that the logic is configured to identify a second predetermined tone received with a plurality of tones from the second device, determine second phase information associated with the second predetermined tone, determine a difference between the first phase information and the second phase information, modify phase information associated with each of the plurality of tones based on the difference, and decode data transmitted on each of the plurality of tones using the modified phase information.

The Office Action points to element 8c of Shirakata as being equivalent to the claimed memory (Office Action – page 2). Similar to the discussion above with respect to claim 1, element 8c in Fig. 4 of Shirakata is a pilot carrier memory. Shirakata discloses that pilot carrier memory 8c holds in advance information about transmitted pilot carriers to which known complex numbers are assigned on the transmitting end (Shirakata – paragraph 0114). Shirakata further discloses that phase difference calculating unit 8d compares the received pilot carrier extracted by pilot carrier extracting circuit 8b and the transmitted pilot carrier signal stored in pilot carrier memory 8c to obtain a phase difference (Shirakata – paragraph 0119). Therefore, Shirakata does not disclose or suggest that the pilot carrier

memory 8c stores phase information associated with a first pilot tone received by the device from a second device. In contrast, Shirakata appears to pre-store information associated with pilot carriers transmitted by the device.

Since Shirakata does not disclose a memory that includes the claimed first phase information, Shirakata cannot further disclose or suggest logic configured to determine a difference between the first phase information (stored in the memory) and the second phase information, as further required by claim 16. Ho also does not disclose or suggest these features.

For at least these reasons, the combination of Shirakata and Ho does not disclose or suggest each of the features of amended claim 16. Accordingly, withdrawal of the rejection and allowance of claim 16 are respectfully requested.

Claims 17-20 are dependent on claim 16 and are believed to be allowable for at least the reasons claim 16 is allowable. In addition, these claims recite additional features not disclosed or suggested by the combination of Shirakata and Ho.

For example, claim 20 recites that the logic is further configured to determine a new difference at predetermined time intervals, the new difference corresponding to a difference between phase information associated with a pilot tone and the first phase information, and modify phase information associated with received tones based on the new difference.

The Office Action states that Shirakata discloses these features and points to the rejection of claim 1 for support for the rejection (Office Action – page 6). Claim 1, however, does not disclose or suggest the features recited in claim 20 and the rejection of claim 1 does not address the features recited in claim 20. The applicant respectfully

requests that any subsequent communication point out where these features are allegedly disclosed by Shirakata or withdraw the rejection.

In any event, Shirakata does not disclose or suggest logic configured to determine a new difference at predetermined time intervals, the new difference corresponding to a difference between phase information associated with a pilot tone and the first phase information, and modify phase information associated with received tones based on the new difference, as recited in claim 20. For at least these additional reasons, withdrawal of the rejection and allowance of claim 20 are respectfully requested.

Claims 9 and 11-14 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Shirakata. The rejection is respectfully traversed.

Claim 9, as amended, recites features similar to those recited in claim 16. For reasons similar to those discussed above with respect to claim 16, Shirakata does not disclose or suggest each of the features of amended claim 9.

Accordingly, withdrawal of the rejection and allowance of claim 9 are respectfully requested.

Claims 11-14 are dependent on claim 9 and are believed to be allowable for at least the reasons claim 9 is allowable. In addition, these claims recite additional features not disclosed by Shirakata.

For example, claim 14 recites that the dividing the difference by a value associated with the first pilot tone comprises dividing the difference by a tone number of the first pilot tone, and wherein the multiplying the first value by values associated with each of the respective plurality of tones comprises multiplying the first value by a tone number of each of the respective plurality of tones.

The Office Action states that Shirakata discloses these features and points to paragraphs 0037, 0038 and 0120 for support (Office Action – page 8). The applicant respectfully disagrees.

Shirakata at paragraphs 0037 and 0038 discloses that phase change amount calculating portions obtain the amount of phase change with respect to carrier frequency by dividing a phase difference between two pilot carriers by a difference in carrier frequencies. Shirakata at paragraph 0120 discloses that the phase difference can be obtained by obtaining phases of the complex number A assigned to a received pilot carrier and the complex number B assigned to a transmitted pilot carrier. None of these portions of Shirakata, or any other portions, discloses or suggests that dividing the difference (between the first phase information and the second phase information) by a value associated with the first pilot tone comprises dividing the difference by a tone number of the first pilot tone, and that the multiplying the first value by values associated with each of the respective plurality of tones comprises multiplying the first value by a tone number of each of the respective plurality of tones. That is, Shirakata does not disclose or suggest dividing any difference by a tone number associated with a first pilot tone or multiplying a first value by a tone number of each of a the respective plurality of tones, as recited in claim 14.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 14 are respectfully requested.

Claims 10 and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Shirakata in view of Ho.

Claims 10 and 15 are dependent on claim 9 and are believed to be allowable for at least the reasons claim 9 is allowable. Ho does not remedy the deficiencies in Shirakata

discussed above with respect to claim 9. Accordingly, withdrawal of the rejection and allowance of claims 10 and 15 are respectfully requested.

#### NEW CLAIMS

Claims 24-26 have been added. Claims 24, 25 and 26 are dependent on claims 1, 9 and 16 and are believed to be allowable for at least the reasons their respective independent claims are allowable. In addition, these claims recite additional features not disclosed or suggested by the cited art.

For example, claim 24 recites that the logic is further configured to modify phase information associated with tones received during the second interval by different amounts based on when in the second interval the tones were received. Claims 25 and 26 recite similar features. Support for these features is given, for example, on pages 13 and 14 of the applicant's disclosure at paragraphs 0052 and 0053. The cited art of record does not disclose or suggest these features. Accordingly, allowance of claims 24-26 is respectfully requested.



**CONCLUSION**

In view of the foregoing remarks, the applicant respectfully requests withdrawal of the outstanding rejections and the timely allowance of this application. If there are any outstanding issues which might be resolved by an interview or an Examiner's amendment, please feel free to call the undersigned attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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